

Exercise walk-through

4.1

Introduction to Imperfectly Competitive Markets

AP Microeconomics

The market structure changes the firm's choices

Structure	Product and sellers	Entry
Perfect competition	Many; identical	Free
Monopolistic competition	Many; differentiated	Easy
Oligopoly	Few major sellers	Barriers
Monopoly	One; no close substitutes	Barriers

In an **imperfectly competitive** product market, firm demand slopes down.
Under uniform pricing, $MR < P$.

Barriers to entry, such as patents or control of a key resource, can protect profit. They cannot guarantee demand or profit.

Zero economic profit still leaves two efficiency gaps

Given the graph: output 10, price and ATC \$32.50, MC \$25; minimum ATC \$30 at output 20.

$$\pi = (P - ATC)q = (32.50 - 32.50) \times 10 = \$0$$

$$\text{Excess capacity} = q_{\min ATC} - q_{\text{actual}} = 20 - 10 = 10 \text{ units}$$

Excess capacity means output below the quantity minimizing ATC; it need not mean unsold stock.

P exceeds MC, so output is allocatively inefficient with no externalities. ATC exceeds its minimum, so it is productively inefficient.

Zero economic profit includes normal return. Product variety is a benefit outside these simple cost-efficiency comparisons.

How large must the penalty be?

Let t be the penalty on B's Power choice in each row, in \$ millions. For Reliability to be *strictly* dominant:

$$18 > 25 - t \quad \Rightarrow \quad t > 7$$

$$30 > 15 - t \quad \Rightarrow \quad t > -15$$

A nonnegative penalty must exceed \$7 million. At exactly 7, B is indifferent in the Safety row. With whole millions, 8 is the smallest sufficient penalty.

A merger maximizing combined profit in the *original* Game 2 chooses Comfort, Reliability: $22 + 30 = \$52$ million. Other totals: 30, 49, 35.

Use the stated table and objective. Joint-profit maximization and individual best responses are different decisions.

Exercises 2.1-2.3

2.1 State one difference between perfect and imperfect competition. [2]

2.2 Name the four market structures listed above. [2]

2.3 State why barriers to entry matter for an imperfectly competitive firm. [1]

Exercises 2.1-2.3

2.1 State one difference between perfect and imperfect competition. [2]

2.1

- a perfectly competitive firm is a price taker (horizontal demand); an imperfectly competitive firm has market power and a downward-sloping demand curve

2.2 Name the four market structures listed above. [2]

2.2

- monopoly, oligopoly, monopolistic competition, monopsony

2.3 State why barriers to entry matter for an imperfectly competitive firm. [1]

2.3

- they block entry, letting the firm keep economic profit in the long run

Exercises 3.1-3.2

3.1 An imperfectly competitive firm faces a demand curve that is

[1]

☐

A horizontal

B downward-sloping

C vertical

D upward-sloping

3.2 A market with a single seller is a

[1]

☐

A monopoly

B oligopoly

C monopsony

D perfectly competitive market

Exercises 3.1-3.2

3.1 An imperfectly competitive firm faces a demand curve that is

[1]

- ☐ A horizontal
☐ B downward-sloping
☐ C vertical
☐ D upward-sloping

3.1 B

- downward-sloping.

3.2 A market with a single seller is a

[1]

- ☐ A monopoly
☐ B oligopoly
☐ C monopsony
☐ D perfectly competitive market

3.2 A

- monopoly.

Exercise 3.3 (a)

3.3 A firm is the only seller in its market and is protected by patents.

(a) Name the market structure.

[1]

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(a) Name the market structure.

[1]

(a)

- a monopoly

Exercise 3.3 (b)

3.3 A firm is the only seller in its market and is protected by patents.

(b) State what the patents act as.

[1]

Exercise 3.3 (b)

3.3 A firm is the only seller in its market and is protected by patents.

(b) State what the patents act as.

[1]

(b)

- a barrier to entry

Exercise 3.3 (c)

3.3 A firm is the only seller in its market and is protected by patents.

(c) State what they allow the firm to keep in the long run.

[1]

Exercise 3.3 (c)

3.3 A firm is the only seller in its market and is protected by patents.

(c) State what they allow the firm to keep in the long run.

[1]

(c)

- long-run economic profit